Horaiclavus sysoevi, a new species (Neogastropoda: Drilliidae) from the northwestern Indian Ocean

Carlo Smriglio
Via di Valle Aurelia 134
00167 Roma
ITALY
csmriglio@tiscalinet.it

Paolo Mariottini[1]
Dipartimento di Biologia
Università di "Roma Tre"
Viale Marconi 446
00146 Roma
ITALY
mariotpa@bio.uniroma3.it

ABSTRACT

Horaiclavus sysoevi, a new gastropod species of the family Drilliidae, is here described from the northwestern Indian Ocean. The new species, consisting of four shells collected during the John Murray Expedition (1933–34), has previously been misidentified in the literature as *Horaiclavus splendidus* (A. Adams, 1867), type species of the genus *Horaiclavus* Oyama, 1954. *Horaiclavus sysoevi* is conchologically similar to *H. splendidus*, but differs in having a bigger size, a shell outline less cylindrical, teleoconch whorls more convex, a smaller number of axial ribs, a higher number of spirals, a narrower and longer siphonal canal. The new species is compared with other members of the genus *Horaiclavus* from the Japan. With this note the geographical distribution of *Horaiclavus* is enlarged.

Additional keywords: Gastropoda, *Horaiclavus splendidus*, Goto Islands, Gulf of Aden.

INTRODUCTION

The familial position of the genus *Horaiclavus* Oyama, 1954, is still uncertain, as pointed out by Sysoev (1996) who followed Shuto (1979, 1983) in assigning this genus to the family Drilliidae Morrison, 1966. The type locality of *Horaiclavus splendidus* (A. Adams, 1867), type species of the genus and herein illustrated for comparative purposes, is Goto Islands (Japan). According to Sysoev (1996) *Horaiclavus madurensis* (Shepman, 1913) is conchologically very similar to *H. splendidus* and should be treated as a subspecies. In this paper we describe a new species of *Horaiclavus*: *Horaiclavus sysoevi* new species from the Gulf of Aden. The new species, represented by four shells collected during the John Murray Expedition in 1933–1934, was figured by Sysoev (1996: 2, figs. 20–21) as *H. splendidus*. The holotype of *H. splendidus* is housed in the H. Cuming collection at The Natural History Museum, London; the holotype of *H. sysoevi* is housed in the John Murray Expedition collection, also at The Natural History Museum. Acronyms used in the text are: The Natural History Museum of London (BMNH), John Murray Expedition (JME). Comparison with other known species of the genus *Horaiclavus* is presented. With this report the geographical distribution of *Horaiclavus* is expanded.

SYSTEMATICS

Superfamily Conoidea Rafinesque, 1815
Family Drilliidae Morrison, 1966
Genus *Horaiclavus* Oyama, 1954

Horaiclavus Oyama, 1954, p. 52.

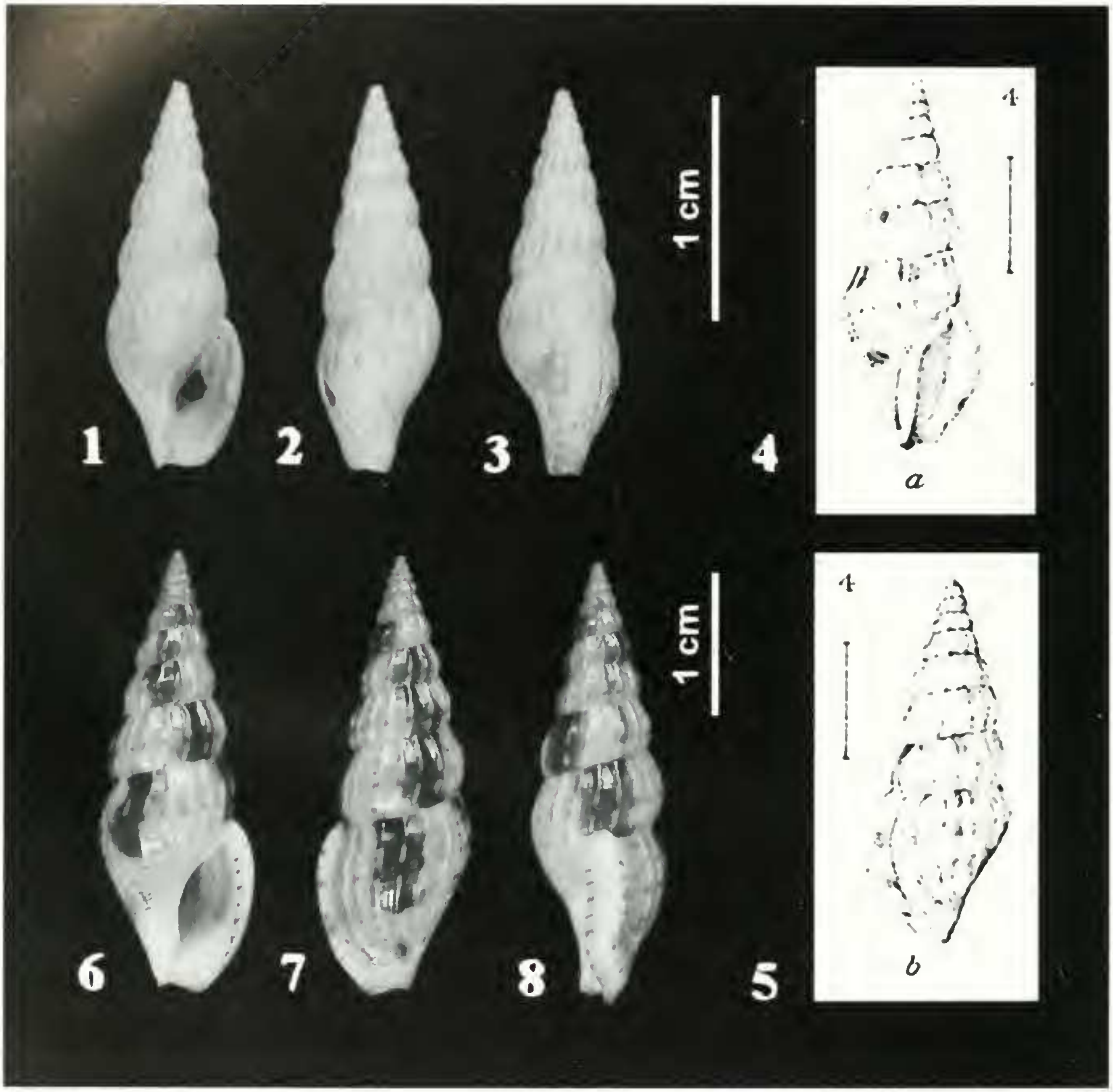
Type Species: *Mangelia splendida* A. Adams, 1867, p. 309, pl. 19, fig. 24, holotype BMNH 1966458.

Description: Shell of medium size for family, slender, fusiform, turriculate with tall spire. Protoconch paucispiral, dome-shaped, smooth, with 1–2.5 convex whorls, bluntly rounded. Teleoconch with 8–9 convex whorls, last whorl ovate. Sculpture of weak axial collabral ribs that extend from suture to suture, crossed by faint spiral lines. Siphonal canal broad and short. Aperture narrow, ovate, and elongate, without distinct sinus on anterior or posterior regions.

Horaiclavus splendidus (A. Adams, 1867)
(Figures 1–3, 6–8)

Description: Shell of medium size, up to 30 mm length, fusiform, spire tall. Protoconch paucispiral, of 1.5 whorls, dome-shaped, about 650–700 µm in maximum diameter, smooth, color light-brown. Transition to teleoconch not well marked. Teleoconch elongate and turriculate, consisting of 8–9 convex whorls, slightly angled on shoulder (8 whorls in the holotype). Sculpture of weak, equally spaced, wavy collabral axial ribs that extend from suture to suture, 11–13 ribs on the earlier whorls, 16–18 on the last whorl. Axial ribs crossed by very faint spirals, 35–45 on last whorl, more evident near

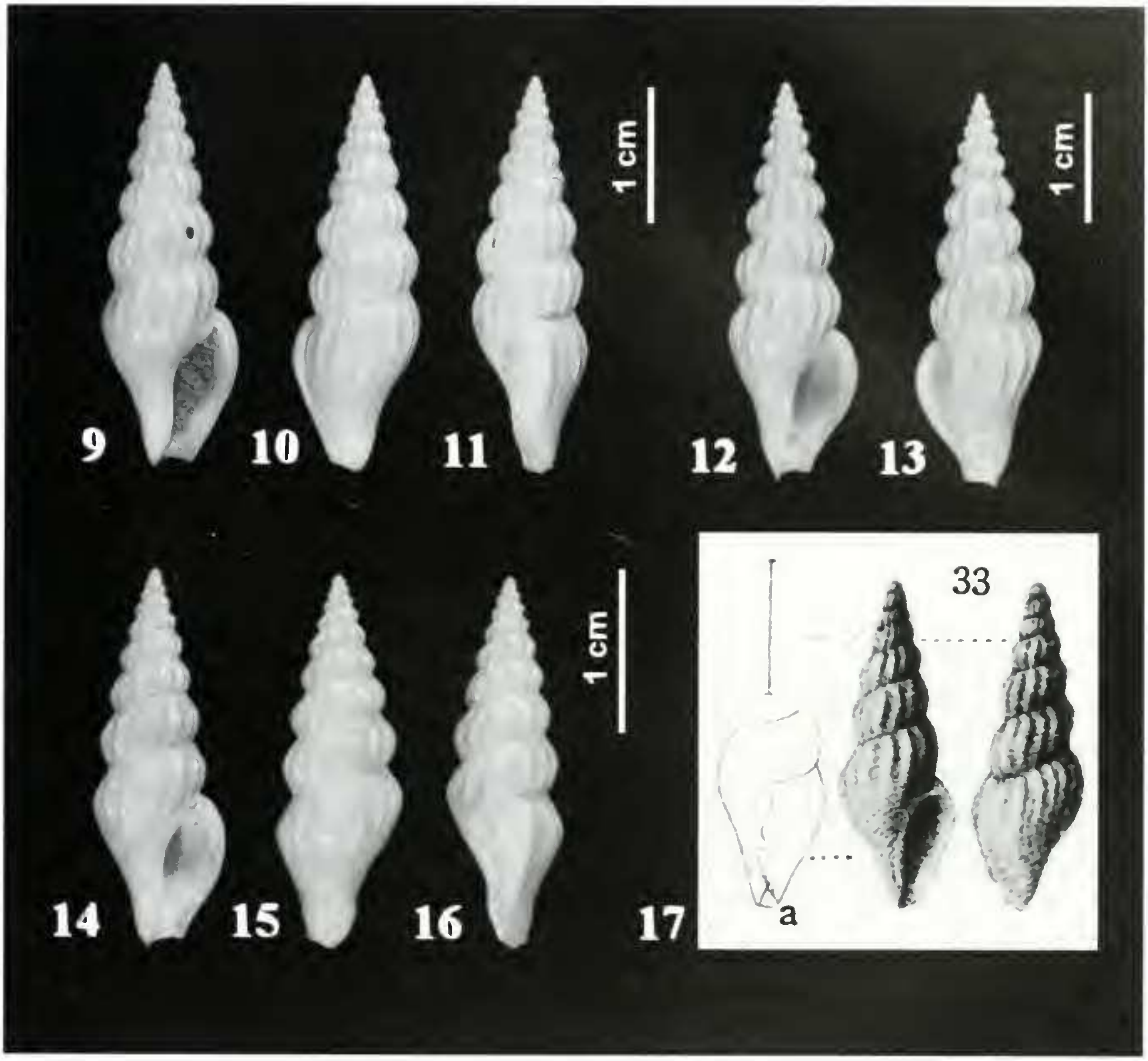
[1] Author for correspondence.



Figures 1–8. *Horaiclavus splendidus* (A. Adams, 1867) and *Horaiclavus madurensis* (Schepman, 1913). **1–3.** *Horaiclavus splendidus* holotype, BMNH 1966458, Goto Islands, Japan, 18.3 × 7.0 mm. Apertural, dorsal, and lateral views. **4–5.** *Horaiclavus madurensis* original drawing by Schepman (1913: figs. 4a–b). **6–8.** *Horaiclavus splendidus*, dredged in deep-water by fishermen, Aligbay Island, Mindanao, Philippines, 29.2 × 6.0 mm. Apertural, dorsal, and lateral views.

base. Suture well-defined. Aperture narrow and ovate, anterior or posterior sinuses not distinct, about one third of shell length, inner color white. Siphonal canal short and large. Columella curved, smooth. Outer lip thick, inner surface smooth. Shell color variable; most common pattern of light-brownish background with reddish-brown flammulate axial stripes and spiral lines of same color. Peristome white with brown-reddish internal dots. Soft parts unknown.

Remarks: *Horaiclavus* was considered in the past as an Indo-Pacific genus. The type species is from Goto Islands (Japan) and the shells from the JME are from the Gulf of Aden (northwestern Indian Ocean). In addition to its broad geographic distribution, this genus seems to have a considerable bathymetric range, at least from 50–732 m, as reported by Kuroda, Habe and Oyama (1971: 212) and Sysoev (1996: 2). As for its systematic position, we agree with Sysoev (1996) who, "until



Figures 9–17. *Horaiclarus sysoevi* new species and *Horaiclarus shitoensis* Oyama, 1954. **9–11.** *Horaiclarus sysoevi*, holotype, BMNH 20010405, Gulf of Aden, northwestern Indian Ocean, JME, station 183, 533 m, 32.3 × 11.0 mm. Apertural, dorsal, and lateral views. **12–13.** Paratype B, BMNH 20010404B, Gulf of Aden, northwestern Indian Ocean, JME, station 176, 732 m, 33.0 × 10.5 mm. Apertural and dorsal views. **14–16.** Paratype A, BMNH 20010404A, Gulf of Aden, northwestern Indian Ocean, JME, station 176, 732 m, 28.0 × 9.8 mm. Apertural, dorsal, and lateral views. **17.** *Horaiclarus shitoensis*, original drawing in Oyama (1954: fig. 33–33a).

the examination of the radula", has conservatively followed Shuto (1975, 1983) in assigning *Horaiclarus* to the Drilliidae. *Horaiclarus madurensis* (Schepman, 1913) has been considered by Sysoev (1996) as a subspecies of *H. splendidus*. The original description and figure of *H. madurensis* (Schepman, 1913: fig. 4) strongly corroborate this point of view, with the shell of this latter species being only somewhat broader and shorter than that of *H. splendidus*. For a better comparison of these two taxa, the original drawing of *H. madurensis* is depicted (Figures 4–5).

Horaiclarus sysoevi new species
(Figures 9–16)

Description: Shell of medium size, up to 33 mm length, fusiform, spire tall. Protoconch paucispiral, of 2.5 whorls, dome-shaped, about 450–500 μm in maximum

diameter, smooth, color cream. Transition to teleoconch not well marked. Teleoconch elongate and lanceolate, with 8–9 whorls. Sculpture of weak, equally spaced, wavy collabral axial ribs, 10–11 on earlier whorls, 12–15 on last whorl, extending from suture to suture. Spiral lines 55–65, regularly spaced and of about same size, overriding axial ribs on last whorl. Suture well-defined. Aperture narrow and ovate, anterior and posterior sinuses not distinct, about one third of the entire height, inner color cream. Siphonal canal short and narrow. Columella curved, smooth. Outer lip thick, inner surface smooth. Shell color uniformly cream with brownish tinges. Soft parts unknown.

Type Locality: Gulf of Aden, northwestern Indian Ocean, 13°43′18″ N, 17°56′4″ E to 13°46′00″ N, 17°50′42″ E, 533 m, JME (1933–34), HEMS MABAHISS station 188.

Type Material: Holotype, BMNH 20010405, length 32.3 mm, from type locality; Paratypes A–C, BMNH 20010404A–C, Gulf of Aden, northwestern Indian Ocean, 12°04′06″ N, 50°38′36″ E, 732 m, JME (1933–34), HEMS MABAHISS station 176.

Etymology: This species is named in honor of Dr. Alexander V. Sysoev (Zoological Museum of Moscow State University, Russia), recognized scientist who has greatly contributed to the knowledge of the malacology.

Remarks: *Horaiclavus sysoevi* is herein described from four shells collected during the JME (1933–34) that were already reported and in part figured by Sysoev (1996: 2, figs. 20–21) under the name *H. splendidus*. We have been able to examine the holotype of *H. splendidus* from the H. Cuming collection and the four shells from JME. This has led us to unquestionably separate that lot of shells from *H. splendidus*. The new species is similar to *H. splendidus*, but clearly distinguishable by several diagnostic features. *Horaiclavus sysoevi* exhibits: more lanceolate and less cylindrical body shape, bigger size, smaller and higher spired protoconch, more convex teleoconch whorls, small number of axial ribs, higher number of spirals, narrower and longer siphonal canal, different shell color. The new taxon is easily distinguishable from other members of the genus *Horaiclavus*: *H. shitoensis* Oyama, 1954 (p. 21, figs. 33–33a), Kuroda, Habe and Oyama (1971: 213, figs. 12–13), Oyama (1973: 50, fig. 7) and Tsuchida and Kurozomi (1996: 41, fig. 5 (1–3)) is much smaller (about 10 mm length), the teleoconch is less elongate and lanceolate, with only 5–6 whorls, stronger axial ribs and spiral sculpture. We provide the original drawing of *H. shitoensis* for comparison (Figure 17). *Horaiclavus sysoevi* also differs markedly from *H. filicinctus* (Smith, 1882), this latter species being smaller (about 10 mm length), with a teleoconch more biconical and much less elongated, with only 5–6 whorls, stronger and fewer axial ribs, and the aperture about half of shell length, as can be observed in the pictures reported by Kuroda, Habe and Oyama (1971: 213, figs. 19) and Tsuchida and Kurozomi (1996: 41, fig. 8 (5)). These authors figured also another species of *Horaiclavus* (*op. cit.*, p. 41, fig. 8 (6)) that is somewhat similar in size and teleoconch shape to *H. shitoensis* but completely different from *H. sysoevi*. With this note the geographical distribution of *Horaiclavus* is expanded, now ranging from the Japan Sea to the northwestern Indian Ocean.

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